

Abstract

An electric arc welder for depositing weld metal along a groove between two edges of a metal workpiece where the welder comprises a first electrode driven by a first wire feeder toward a point in said groove, a second electrode driven by a second wire feeder toward the point and a main power source with a first output terminal connected to the first electrode and a second output terminal connected both to the second electrode and directly or indirectly to the metal workpiece to create a second electrode path and a workpiece path. The power source includes a high speed switching output stage for creating current with a selected AC waveform between the first and second output terminals where the waveform of the main power source is generated by a waveform generator controlling a pulse width modulator circuit to determine the current operation of the output stage.